

elastic gathers show a greater percentage elongation for the same tension and size of elastic filament than a panel that does not have these transverse elastic gathers. Depending on the type of adhesive and the amount used, the glue lines may result in attached zones in which the composite has reduced elasticity,

5 regardless of the elasticity of the elastic, i.e., a zone of little or no elasticity in the panel. Alternatively, ultrasonic bond lines can replace the glue lines. These types of material are the subject of a separate patent application, which was filed on the same date as this application in the name of Fell et al., having lawyer identification number 659/489, which application is incorporated herein by reference.

10 The elastic panels made with these glue lines have a much higher maximum stretch than panels made by conventional techniques. For example, a panel made using 1/8 inch (3.2 mm) glue lines, spaced apart by 1/8 inch (3.2 mm) and having the elastic strands placed under 250% elongation will have a maximum elongation length of 240%. Under the same condition, it would be expected that

15 the conventional composition would have a maximum elongated length of about 212%. Thus, these elastic panels allow for a much greater use of the tension put into the strands and provides a panel that for the same initial elastic elongation can have a substantially larger maximum width.

Examples of materials suitable for constructing the elastic side panels

20 include elongatable materials, elastic materials, or elastomeric materials, such as polymer films, woven fabrics, knits, nonwoven fabrics or the like, as well as combinations thereof. Thus, the elastic side panels may be composed of a stretch-bonded-laminate (SBL) material, a neck-bonded-laminate (NBL) material, a reversibly necked nonwoven material, an elastomeric film, and elastomeric foam

25 material, elastic threads or the like. For example, suitable meltblown elastomeric fibrous webs for forming elastic side panels are described in U.S. Patent 4,663,220 issued May 5, 1987 to T. Wisneski et al., the disclosure of which is hereby incorporated by reference. Examples of composite fabrics comprising at least one layer of nonwoven textile fabric secured to a fibrous elastic layer are described in

30 European Patent Application EP No. 0 217 032 A2 published on April 8, 1987 with the inventors listed as J. Taylor et al., the disclosure of which is hereby incorporated by reference.